DOCUMENT RESUME

ED 118 781 95 CE 006 309

AUTHOR Schindler, John; And Others
TITLE Determination of Required Skills Necessary for Job Entry Level of Employment in the Auto Body Trade. Final Report.
INSTITUTION Southwest Wisconsin Vocational-Technical Inst., Fennimore.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.; Wisconsin State Board of Vocational, Technical, and Adult Education, Madison.
REPORT NO VT-102-506
PUB DATE Jun 75
NOTE 63p.; Appendixes E and F may reproduce poorly due to quality of original document

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage
DESCRIPTORS Area Vocational Schools; *Auto Body Repairmen; Curriculum Development; Educational Needs; Employee Attitudes; Employer Attitudes; *Employment Qualifications; *Entry Workers; Job Skills; *Occupational Surveys; Questionnaires; *Skill Analysis; Vocational Education
IDENTIFIERS Wisconsin

ABSTRACT

A study to identify the basic skills and tasks that are necessary to obtain job-entry level employment as an auto body technician was conducted at the Southwest Wisconsin Vocational-Technical Institute from March to July 1975. Surveys were distributed to employees, vocational graduates, and employers in the auto body trade. The survey determined basic skills necessary for job-entry level and their degree of importance. In addition to the opinions on the importance of auto body skills, information is presented concerning employee and employer characteristics, graduates' opinions of their training, and suggestions for curriculum revision. A sample of the survey instrument is appended. (Author/NJ)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED118781

FINAL REPORT

Project No. 03-044-151-225

DETERMINATION OF REQUIRED SKILLS NECESSARY FOR JOB ENTRY LEVEL OF EMPLOYMENT IN THE AUTO BODY TRADE

June, 1975

Southwest Wisconsin Vocational-Technical Institute

Fennimore, Wisconsin

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

CE006309

FINAL REPORT

Project No. 03-044-151-225

DETERMINATION OF REQUIRED SKILLS NECESSARY FOR JOB ENTRY LEVEL OF EMPLOYMENT IN THE AUTO BODY TRADE

John Schindler
Research Associate
Auto Body Program Major Instructor

Daniel J. Wagner
Administrator of Research and Planning

Ronald H. Anderson
District Director

Southwest Wisconsin Vocational-Technical Institute
Fennimore, Wisconsin

June, 1975

The project was funded pursuant to a grant with the Wisconsin Board of Vocational, Technical and Adult Education, thru the use of federal funds from the U.S. Office of Education and by matching funds provided by Southwest Wisconsin Vocational-Technical Institute. The results stated in this report are those representing the compilation and tabulation of facts taken directly from the survey instruments which were distributed statewide to employers and employees in the auto body trade. The participants represent a random sampling of personnel in the auto body trade throughout the state of Wisconsin and the results represent the opinions of these participants and do not necessarily reflect the views of the participating agencies.

VT 102506

ACKNOWLEDGEMENTS

The researcher wishes to thank all individuals who contributed to the successful completion of this project.

Specific individuals at Southwest Wisconsin Vocational-Technical Institute include Mr. Ronald H. Anderson, District Director; Daniel J. Wagner, Administrator of Research and Planning; Sally Kinder, Research Secretary; and Kitty Wilkinson, T & I Division Secretary.

Also acknowledged are Arnold Potthast, Chief of Trade and Industrial Education; Otis Melberg, Vocational Educational Consultant; and Merle W. Bodine, Director of Community and Special Project Coordinator from the Wisconsin State Board of Vocational, Technical and Adult Education for their financial support and other assistance.

Much appreciation is extended to the members of the Project Advisory Committee for their support and guidance.

Finally, gratitude is expressed to all of the auto body instructors throughout the vocational districts in the State of Wisconsin. Without the cooperation of these people in the distribution, collection, and return of the survey instrument, the results and the final report would have been almost impossible to produce.

TABLE OF CONTENTS

		PAGE
I.	Acknowledgements	ii
II.	Table of Contents	iii
III.	List of Tables	iv
IV.	Summary	v
V.	Chapter I - Introduction	
	The Problem	1
	The Objective of the Study	1
	Activities and Procedures	1
VI.	Chapter II - Methodology	3
VII.	Chapter III - Research Findings and Analysis	
	Employer Opinion of Graduates	6
	Employer Characteristics	6
	Employee Characteristics	7
	Graduates Opinion of Vocational School Training	9
	Employer Suggestions for Improvement of Curriculum	10
	Graduates Suggestions for Improvement of Curriculum	12
	Employees Opinion of Importance of Auto Body Skills	14
	Employer Opinion of Importance of Auto Body Skills	21
VIII.	Chapter IV - Conclusions and Recommendations	30
IX.	APPENDIX	
	A- Survey Instrument	
	B- Advisory Committee	
	C- Cover Letter	
	D- State Board Letter to Districts	
	E- Auto Body Workshop Invitation	
	F- Auto Body Workshop Minutes	

LIST OF TABLES

TABLE		PAGE
I	Vocational School Graduate Qualification in Job-Entry Skills	6
II	Employer Reason for Dismissal	7
III	Employee Reason for Dismissal	8
IV	Employees Complaint	8
V	Graduate Satisfaction of Vocational School Training	9
VI	Graduate Satisfaction of Major Instructors	9
VII	Graduate Satisfaction of Shop Facilities and Equipment	9
VIII	Graduate Opinions of Problem Areas During Training	10
IX	Employers Suggestions for Curriculum Improvement	11
X	Graduates Suggestions for Curriculum Improvement	13
XI	Skills - Removal and Replacement	14
XII	Skills - Estimating	14
XIII	Skills - Rust Repair	14
XIV	Skills - Tool Usage	15
XV	Skills - Frame Straightening	15
XVI	Skills - Paint Preparation	16
XVII	Skills - Painting Techniques	17
XVIII	Skills - Straightening Techniques	18
XIX	Skills - Electrical and Mechanical	18
XX	Skills - Welding	19
XXI	Skills - Human Relations-Communications	20
XXII	Skills - Removal and Replacement	22
XXIII	Skills - Estimating	22
XXIV	Skills - Rust Repair	23
XXV	Skills - Tool Usage	23
XXVI	Skills - Frame Straightening	24
XXVII	Skills - Paint Preparation	25
XXVIII	Skills - Painting Techniques	26
XXIX	Skills - Straightening Techniques	27
XXX	Skills - Electrical and Mechanical	27
XXXI	Skills - Welding	28
XXXII	Skills - Human Relations-Communications	29

SUMMARY

A study to identify the basic skills and tasks that are necessary to obtain job entry level employment as an auto body technician was conducted at the Southwest Wisconsin Vocational-Technical Institute from March to July, 1975.

One hundred and twenty-five (125) surveys were distributed to employees and graduates from the Wisconsin Vocational, Technical and Adult Education system. Sixty-four (64) of these surveys were returned representing 51.2% response. One hundred (100) surveys were distributed to employers in the auto body trade throughout the State of Wisconsin. Sixty-eight (68) of these surveys were returned representing a 68% response.

The results of this survey represents opinions of the employers and ex-students of the state vocational districts in the major field of auto body. The survey made no attempt to determine the degree of competency in the skills by employers or employees but only to analyze the degree of importance of these skills which the participants felt were necessary for job-entry level of employment in the auto body trade. Further, due to the complexity of the trade, some of the tasks that journeyman auto body technicians perform periodically on the job are not identified and therefore results are not tabulated.

CHAPTER I

INTRODUCTION

THE PROBLEM:

The Auto Body Programs in Wisconsin are well established and produce numerous graduates to fulfill the manpower needs for auto body technicians in the industry. The programs statewide in 1974 graduated 156 students of which 77 percent secured employment. Only 6 graduates who sought employment were unable to find employment. Over a period of years, different improvements have been made in the curriculum of the Auto Body Programs. At this time, it is necessary to obtain information which will allow for review of the existing curriculum. Through this project, the curriculum will be studied by graduates and employers to determine strengths and weaknesses of the existing Auto Body Programs.

THE OBJECTIVE OF THE STUDY:

The objectives of this project will be to take a personal survey of a random selection of graduates of the Auto Body Programs throughout the State of Wisconsin and their respective employers to determine strengths and weaknesses of the present auto body curriculum. A larger number of graduates and their respective employers will be surveyed through a mailed document. The results of these surveys will be interpreted with recommendations made for improvement in the auto body curriculum.

ACTIVITIES AND PROCEDURES:

This project will be conducted by the Southwest Wisconsin Vocational-Technical Institute Auto Body Instructor working with the Administrator of Research and Planning in cooperation with the Administrator of Instructional Services and Trade and Industry Division Chairman. A list of recent graduates of the Auto Body Programs in the State of Wisconsin will be provided by the State Department of

Vocational, Technical and Adult Education. A random number of these students will be contacted, along with their employers, either personally or through a mailed document. Upon completion of the personal interviews and after obtaining the results of the mailed questionnaire, data will be compiled and analyzed and recommendations will be developed for proposed changes in the Auto Body Program.

1. The time design is the following:

   March - identify employers and past graduates - develop questionnaire

   April to May - conduct the survey

   June - tabulate the results, analyze the data, and write the final report

CHAPTER II

METHODOLOGY

A random sample of employees, employers, and graduates from the Wisconsin Vocational Auto Body Programs were surveyed to determine skills that are necessary to obtain in order to meet the basic requirements for job-entry level employment in the auto body trade.

The survey was constructed following a thorough examination of the auto body curriculums from each of the vocational districts in Wisconsin which offer this program major. The final instrument represented a compilation of basic skills that were repeatedly indicated as major topics in these curriculums from the various Vocational Districts. Along with this list of basic skills, the researcher prepared an initial list of tasks based on his previous employment in auto body and five years' teaching experience in the auto body trade. Two Southwest Tech faculty assisted in identifying the basic skills required for job-emtry level employment, which helped lend a broader, more detailed outline to the survey instrument. The two faculty members were an ex-auto body instructor with 25 years' trade experience, and an auto body related subjects instructor.

An initial rough draft of the survey was prepared during March, 1975 and in addition to a list of skills and tasks, a number of questions were inserted, which would reveal in more detail specific strong or weak points in the present auto body curriculum.

The initial survey was presented to an advisory committee on April 8, 1975 (Appendix B) consisting of two employers, one employee and one ex-employee in the auto body trade. The committee, during a one-day session reviewed the survey

instrument and made many constructive suggestions for its revision. The purpose of this meeting was to lend suggestions to finalize a survey which would be valid in determining job-entry skills and tasks and still be interesting, easy and concise enough to facilitate respondent completion (Appendix A).

The Wisconsin Board of Vocational, Technical and Adult Education provided a list of auto body graduates over the past five years, a list of employers of graduates, and a list of auto body advisory committee members (Appendix D). These individuals were placed on a mailing list and received a copy of the final survey instrument.

On April 11 and 12, 1975 the Wisconsin Auto Collision Technicians Association held their annual trade show and convention in Madison, Wisconsin. This association represents the only organized group of auto body technicians in the State of Wisconsin. Attending this convention were approximately 300 people representing shop owners, employers, employees from throughout the State. Many of these individuals had originally been trained in one of the State auto body programs. A copy of the final survey was distributed to many of the people attending this convention along with a return envelope for the survey.

On April 17 and 18, 1975 the State Trade and Industry Staff called an Auto Body Workshop for all of the auto body instructors from throughout the various vocational districts in Wisconsin. (Appendix E). During this session, the investigator was called upon to explain the purposes of the project to the members in attendance. All of the members expressed their interest in the project and willingness to cooperate in helping to complete the survey. Revisions were made to the survey on the suggestions of the instructors in attendance. The instructors agreed to accept and deliver copies of the surveys to various body shop employees and graduates in their particular districts and return them for the final tabulation (Appendix F).

On April 25, 1975 twenty-five (25) copies of the survey were mailed to each of the instructors present at the workshop. The instructors would attempt to have the surveys completed and returned by May 12, 1975. On May 9, 1975 phone calls were made to all of the instructors that were on the mailing list requesting that they return the finished surveys, if they had not previously done so. During the month of July, the investigator also traveled to various shops throughout the State personally interviewing and completing the surveys.

Utilizing the above described procedures, a random sampling of employers, employees, and graduates were thus selected with surveys mailed, delivered, or personally handed out in a variety of different methods. In the first method, the surveys were mailed to past graduates from the list provided by the State Office; in the second method, surveys were personally handed out and interviews were taken at the Wisconsin Auto Collision Technicians Association Trade Show; in the third method, surveys were mailed to the auto body instructors throughout the State which were then delivered and completed; and the fourth method where personal interviews were conducted throughout the month of June. All of the surveys that were returned to the investigator by May 19, 1975, were included in the final tabulation and analysis.

CHAPTER III

RESEARCH FINDINGS AND ANALYSIS

The following characteristics are based on the results of 127 surveys. Only one survey instrument was used, which had a section for employers, a section for employees, and a general section for both. The questions on the employee section were similar but not identical to the questions on the employer section.

The following results were determined by a tabulation of the surveys and will compare, wherever possible, answers from employers to the answers of employees. The analysis will primarily attempt to determine strengths and weaknesses of present curriculums.

EMPLOYER CHARACTERISTICS

For the sixty-eight (68) employers surveyed, the number of years' experience ranged from one to thirty-nine. The employers projected they would need 49 additional employees within the next two years or .72 employees for each employer surveyed. Of the employers, 32% were owners, 31% were shop managers and 31% were owner-operators. These 68 employers presently employ 275 employees of which 63, or 22.5%, were trained in one of the state vocational institutes.

EMPLOYER OPINION OF GRADUATES

The following table represents the results of question Number 8 on the employer section of the survey. The specific question states "If you have ever hired a state vocational school graduate, how qualified were these people in the area of job-entry skills?"

TABLE I

Vocational School Graduate Qualifications in Job-Entry Skills

	EMPLOYEE A		EMPLOYEE B		EMPLOYEE C	
Very Well Qualified	17	39%	3	14%		
Well Qualified	10	23%	8	38%	2	25%
Average	15	34%	6	29%	5	63%
Unqualified	2	4%	4	19%	1	12%

The question was designed to allow employers to respond on as many as three graduates of the State auto body programs. The tables indicate the employers have hired 73 employees, which have graduated from one of the State auto body programs. Forty (40) or 54% ranking well qualified or very well qualified in job-entry skills.

Question number 9 reads as follows: "If you or your firm have ever felt the need to dismiss a man that has graduated from a State Vocational School, what would you consider the primary factor to be?" In response to question number 9, regarding the reasons for dismissing a auto body program graduate, the employers said that a poor attitude or personality conflict accounted for 9, or 50%, of the dismissals with lack of job-entry skills accounting for 9, or 50%, of the dismissals.

TABLE II
Employer Reason for Dismissal

Choices	Responses	Percentage
A poor attitude or personality conflict	9	50%
Lack of necessary job-entry skills	9	50%

These 68 employers entered the auto body field through the following training methods: Apprenticeship 11%; state vocational training 29%; and on-the-job training 60%. The respondents indicated they consider the best training for entering the auto body field being the following: state vocational schools 62%; private vocational schools 2%; on-the-job experiences with no vocational training 8%; and apprenticeship training 28%.

EMPLOYEE CHARACTERISTICS

Of the 64 employees that responded, 80% had attended one of the state vocational schools. The number of years' experience in the auto body trade ranged from 1 to 15 years with the average being 4 years.

The employees were also questioned regarding reasons for separation in question number 4. The exact question read as follows, "If you have ever quit or been dismissed from a body shop, what would you consider the primary factor to be?" The employees felt that personality conflict accounted for 8, or 89%. Only one employee questionned was dismissed. He indicated that it was due to a lack of job-entry skills.

TABLE III
Employee Reasons for Dismissal

Choices	Responses	Percentages
Personality conflict with the management	8	89%
Tasks of required job-entry skills	1	11%

In the area of job satisfaction the employees listed their biggest complaint as follows:

TABLE IV
Employees Complaint

Choices	Responses	Percentages
Low wages	5	15%
Poor working conditions	7	20%
Poor benefits	9	27%
Poor management or organization	6	19%
Lack of communication and understanding	6	19%

The 64 employees entered the auto body field through the following training methods: apprenticeship 14%; state vocational training 40% and on-the-job training 33%.

Their opinions on which training method they consider the best method of entering the auto body field are: state vocational institutes 58%; on-the-job experiences with no vocational training 14%; and apprenticeship training 28%.

GRADUATES' OPINION OF VOCATIONAL SCHOOL TRAINING

The following tables represent the degree of satisfaction of the graduates concerning their training in the state vocational system.

TABLE V
Graduate Satisfaction of Vocational School Training

How satisfied were you with your vocational school training?

Choices	Responses	Percentage
Highly Qualified	13	36%
Satisfied	17	47%
Dissatisfied	5	14%
Highly Dissatisfied	1	3%

TABLE VI
Graduate Satisfaction of Major Instructors

How qualified did you feel your major instructors were?

Choices	Responses	Percentage
Highly Qualified	24	63%
Qualified	14	37%
Unqualified	0	0%
Highly Unqualified	0	0%

TABLE VII
Graduate Satisfaction of Shop Facilities and Equipment

How adequate did you feel your shop facilities and equipment were?

Choices	Responses	Percentage
Highly Adequate	19	51%
Adequate	15	41%
Inadequate	3	8%
Highly Inadequate	0	0%

TABLE VIII
Graduate Opinions of Problem Areas During Training

During your training, what would you consider your biggest complaint?

Choices	Responses	Percentage
Inadequate Shop Facilities	9	24%
Poor Instruction	2	5%
Curriculum Problems	4	11%
Course Too Short	11	30%
Too Many Students Per Class	11	30%
Lack of Social Functions	0	0%

EMPLOYER SUGGESTIONS FOR IMPROVEMENT OF CURRICULUM---Table IX page 11

Employers were asked to provide suggestions to improve the existing curriculum, and thus update the course material of the auto body program. They were requested to consider the experiences, qualities, and characteristics of the graduates that they had been in contact with. It should be noted the responses to this section were the employers' opinions regarding how the graduate could have been better qualified for job-entry level employment. The employers were given the following directions, "considering your experience with vocational school graduates, check the following areas which you feel would apply to improve the overall auto body program". The following table summarizes the employers' opinions to improve the time spent on major courses, but makes no attempt at determining specific skills pertaining to each of the courses.

TABLE IX

Employers' Suggestions for Curriculum Improvement

	Increase Time	Sufficient Time	Decrease Time	Eliminate
Major Shop Courses	51%	49%	--%	--%
Major Theory Courses	26	67	7	--
Related Welding Courses	52	45	3	--
Related Auto Body Electrical Courses	41	51	5	3
Related Used Car Clean-Up Courses	24	44	24	8
Related Tool Maintenance Courses	28	59	13	--
Math Courses	12	55	19	14
Human Relations - Communications	36	51	13	--
Refinishing Courses	70	30	--	--
Frame Straightening Courses	64	28	8	--
Applied Science Courses	12	51	34	3
Employment Orientation Courses	19	58	23	--

GRADUATE SUGGESTIONS FOR IMPROVEMENT OF CURRICULUM--Table X page 13

The graduates from the vocational auto body programs were asked to offer suggestions to improve the overall curriculum, and thus update the course material of the auto body programs. The participants were given the following directions, "considering your previous vocational school training, check the following areas which you feel would apply to improve the overall auto body program". The following table summarizes the graduates' opinions to improve the time spent on the major courses but makes no attempt at determining specific skills pertaining to each of the courses.

It is interesting to observe that responses from the graduates and the employers on the previous question are closely related in most areas. Comparing the results of Table VIII and IX, research indicates the five highest percentage figures in the increased time column for the graduate table were exactly the same five courses in the employer table. The five courses are Major Shop Courses, Related Welding Courses, Related Auto Body Electrical, Refinishing, and Frame Straightening Courses. According to the employer and graduates, these curriculum areas should be allotted more time in the auto body curriculum.

TABLE X

Graduates' Suggestions for Curriculum Improvement

	Increase Time	Sufficient Time	Decrease Time	Eliminate
Major Shop Courses	63%	37%	--%	--%
Major Theory Courses	18	65	15	--
Related Welding Courses	42	55	3	--
Related Auto Body Electrical Courses	42	45	13	--
Related Used Car Clean-Up Courses	30	37	20	13
Related Tool Maintenance Courses	31	55	10	4
Math Courses	8	53	31	8
Human Relations - Communications	16	41	32	11
Refinishing Courses	61	33	3	3
Frame Straightening Courses	60	32	8	--
Applied Science Courses	24	38	19	19
Employment Orientation Courses	14	74	6	6

EMPLOYEES OPINION OF IMPORTANCE OF AUTO BODY SKILLS

The following tables represent a compilation of results that were taken from the 64 employees and graduates throughout the state. The skills or tasks listed were determined after careful study of all the State auto body curriculums and with the suggestions of the advisory committee. Due to the complexity of the trade and the variety of different specialty auto body shops, it was impossible to list all of the skills necessary in the auto body trade. The investigator believes, however, that a great majority of the job-entry skills or the skills that are considered mandatory to enter the trade are itemized in the following tables.

The employees were given the following directions to complete the survey instrument, "Check the appropriate item - read the choices." Tables XI thru XXI illustrate the employees' opinion of importance of auto body skills.

TABLE XI
Skills - Removal and Replacement

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to remove, replace, adjust and align all bolts on sheet metal	77%	15%	8%	--%
all weld on sheet metal	91	9	--	--
interior trim items	43	37	20	--
interior door stops, adjusting and regulatory devices inside of door	64	29	7	--
exterior moldings	42	35	23	--
bumpers and misc. exterior parts	45	39	16	--
all glass	59	27	11	2
vinyl roof	33	36	24	7

TABLE XII
Skills - Estimating

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to write a legitimate estimate using regular shop manuals	41%	34%	15%	10%
follow the manager's estimate or repair order	45	26	26	3
add and keep track of time in accordance with the manager's estimate	29	36	33	2

TABLE XIII
Skills - Rust Repair

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to rust repair using - sheet metal & welding techniques	32%	9%	9%	--%
fiberglass cloth, tape, woven sheets & fiberglass resin	40	38	15	7

TABLE XIV
Skills - Tool Usage

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to properly use the-				
basic body hand tools	84%	9%	5%	2%
basic body power tools	88	7	2	2
basic body air tools	84	12	2	2

TABLE XV
Skills - Frame Straightening

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to recognize the outward visible signs which indicate frame damage	88%	10%	--%	2%
use portable frame equipment to straighten major frame or uni-body damage	77	12	9	2
use stationary frame equipment to straighten major frame or uni-body damage	57	30	11	2
use portable frame equipment to straighten minor frame on uni-body damage	77	21	--	2
use stationary frame equipment to straighten minor frame damage on uni-body damage	59	37	2	2
refer to a frame manual for determining proper frame dimensions	67	26	2	5
understand the importance of a straight frame for alignment purposes	79	19	2	--
align a front end after frame is straightened	48	34	9	9
diagnose & detect frame damage by the use of gauges & measuring devices	77	16	5	2

TABLE XVI

Skills - Paint Preparation

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to look up the paint number for a given vehicle	54%	42%	4%	--%
understand the importance of a properly prepared surface	90	--	10	--
wet sand a finish, primer or putty in hand	75	19	6	--
wet sand a finish, primer or putty with a sanding block and squeegy	82	16	2	--
dry sand a finish, primer or putty by hand	75	20	5	--
determine which grit abrasive paper is the best for a particular job	71	20	9	--
use a power sander to prepare a surface, primer or putty for refinish	74	17	9	--
recognize the importance of a properly masked vehicle	70	21	9	--
recognize the importance of keeping a neat & clean vehicle & work area during the preparation period	62	29	9	--
use a metal conditioner properly & recognize the importance of it	77	14	9	--
recognize the importance of a well prepared feathered edge	84	11	4	--
recognize where a glazing putty can be used during the preparation period & how to use it	72	16	6	6
look up the paint formulas for a given paint on a mixing machine	27	22	12	39
properly prepare a vehicle for a refinish	88	7	5	--
understand the proper priming techniques	86	12	2	--

TABLE XVII
Skills - Painting Techniques

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to determine whether a surface is actually ready for a topcoat	88%	7%	5%	--%
recognize the need for a primer-sealer & be able to use it	83	15	2	--
recognize which type of paint should be used on a given refinish	88	8	4	--
recognize the importance of following label directions	68	23	5	4
properly spray a complete auto with acrylic enamel, synthetic enamel & acrylic lacquer	73	15	10	2
properly spot repair a given panel with acrylic lacquer & rub it out	75	18	7	--
properly maintain a good clean paint gun & painting equipment	75	23	2	--
properly clean-up an auto after it has been refinished	53	33	14	--
recognize the effects of different strength solvents on the various undercoats & topcoats	73	15	8	4
recognize the affect of temperature humidity on different coats	74	18	5	3
recognize the affect of air pressure, & reduction, rate of travel, gun distance, etc. on the final appearance	85	10	3	2

TABLE XVIII
Skills - Straightening Techniques

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to properly rough out a damaged body panel	95%	3%	2%	--%
use a body hammer & dolly & other basic straightening tools	97	3	--	--
completely metal finish out a body panel	67	10	10	13
recognize which conditions require the use of body plastic & be able to apply it properly	82	10	8	--
properly & completely finish out the plastic fill to the proper contour	87	11	2	--
recognize the different methods of finishing plastic	61	37	2	--

TABLE XIV
Skills - Electrical & Mechanical

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to remove, replace, check connect, adjust & troubleshoot a-				
water pump	38%	41%	13%	8%
radiator	41	44	10	5
major electrical circuit	36	44	10	10

TABLE XX
Skills - Welding

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to recognize the importance of safety procedures around welding	95%	3%	2%	--%
set up an oxy-acetylene system & change	86	14	--	--
light and adjust the torch	83	10	5	2
weld dissimilar gauge metals	78	15	5	2
distinguish which welding process would be the best to use on a given repair	76	22	2	--
properly use the oxy-acetylene torch in conjunction with fusion welding on automotive sheet metal	90	7	3	--
properly use the oxy-acetylene torch in conjunction with braze welding on automotive sheet metal	90	5	5	--
properly use the arc welder in conjunction with automotive sheet or frames	66	22	10	2
properly use the MIG wire feed welder in conjunction with automotive sheet metal	41	39	10	10
properly use the Lenco panel spotter in conjunction with automotive sheet metal	58	28	13	--

TABLE XXI
Skills - Human Relations-Communications

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to work with & get along with other people in the shop	68%	26%	3%	3%
recognize the importance of an acceptable set of work habits	66	28	3	3
present himself to the public in a way to promote an acceptable image for the shop	51	37	7	5
recognize the relationship between a day's work & a day's pay	54	32	11	3

EMPLOYERS OPINION OF IMPORTANCE OF AUTO BODY SKILLS

The following tables represent an analysis of results that were taken from the 68 employers throughout the State. The skills or tasks listed were determined after careful study of all the State auto body curriculums and with the suggestions of the advisory committees. Due to the complexity of the trade and the variety of different specialty auto body shops, it was impossible to list all of the skills necessary in the auto body trade. The investigator believes, however, that a great majority of the job-entry skills or the skills that are considered mandatory to enter the trade are itemized in the following tables.

The employers were given the following directions to complete the survey instrument, "Check the appropriate item - read the choices". Tables XVIII thru XXXII illustrate the employers' opinion of importance of auto body skills.

TABLE XXII
Skills - Removal and Replacement

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to remove, replace, adjust and align allbolts on sheet metal	79%	12%	9%	--%
all weld on sheet metal	85	10	5	--
interior trim items	42	42	15	1
interior door stops, adjusting and regulatory devices inside of door	68	25	6	1
exterior moldings	51	34	15	--
bumpers and misc. exterior parts	57	31	12	--
all glass	56	29	12	3
vinyl roof	41	25	21	13

TABLE XXIII
Skills - Estimating

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to write a legitimate estimate using regular shop manuals	38%	35%	20%	7%
follow the manager's estimate or repair order	53	26	21	--
add and keep track of time in accordance with the manager's estimate	47	26	25	2

TABLE XXIV
Skills - Rust Repair

Be able to rust repair using -	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
sheet metal & welding techniques	78%	16%	6%	--%
fiberglass cloth, tape, woven sheets & fiberglass resin	56	26	8	10

TABLE XXV
Skills - Tool Usage

Be able to properly use the	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
basic body hand tools	90%	5%	5%	--%
basic body power tools	89	8	3	--
basic body air tools	90	8	2	--

TABLE XXVI
Skills - Frame Straightening

	Very Important Learn In School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to recognize the outward visible signs which indicate frame damage	81%	12%	7%	--%
use portable frame equipment to straighten major frame or uni-body damage	52	30	12	6
use stationary frame equipment to straighten major frame or uni-body damage	50	32	14	4
use portable frame equipment to straighten minor frame on uni-body damage	69	19	12	--
use stationary frame equipment to straighten minor frame damage on uni-body damage	58	24	15	3
refer to a frame manual for determining proper frame dimensions	58	29	13	--
understand the importance of a straight frame for alignment purposes	80	17	3	--
align a front end after frame is straightened	49	28	16	7
diagnose & detect frame damage by the use of gauges & measuring devices	69	23	8	--

TABLE XXVII
Skills - Paint Preparation

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to look up the paint number for a given vehicle	74%	23%	2%	1%
understand the importance of a properly prepared surface	91	9	--	--
wet sand a finish, primer or putty in hand	78	12	6	4
wet sand a finish, primer or putty with a sanding block and squeegy	80	16	4	--
dry sand a finish, primer or putty by hand	76	14	5	5
determine which grit abrasive paper is the best for a particular job	86	11	3	--
use a power sander to prepare a surface, primer or putty for refinish	86	9	5	--
recognize the importance of a properly masked vehicle	77	18	5	--
recognize the importance of keeping a neat & clean vehicle & work area during the preparation period	75	21	4	--
use a metal conditioner properly & recognize the importance of it	80	17	3	--
recognize the importance of a well prepared feathered edge	94	5	1	--
recognize where a glazing putty can be used during the preparation period & how to use it	82	10	6	2
look up the paint formulas for a given paint on a mixing machine	38	38	13	11
properly prepare a vehicle for a refinish	89	6	5	--
understand the proper priming techniques	86	9	5	--

TABLE XXVIII
Skills - Painting Techniques

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to determine whether a surface is actually ready for a topcoat	92%	6%	2%	--%
recognize the need for a primer-sealer & be able to use it	89	8	3	--
recognize which type of paint should be used on a given refinish	69	28	3	--
recognize the importance of following label directions	69	25	6	--
properly spray a complete auto with acrylic enamel, synthetic enamel & acrylic lacquer	78	11	11	--
properly spot repair a given panel with acrylic lacquer & rub it out	87	9	4	--
properly maintain a good clean paint gun & painting equipment	76	18	6	--
properly clean-up an auto after it has been refinished	63	28	9	--
recognize the effects of different strength solvents on the various undercoats & topcoats	70	23	7	--
recognize the affect of temperature humidity on different coats	69	25	6	--
recognize the affect of air pressure, & reduction, rate of travel, gun distance, etc. on the final appearance	80	17	3	--

TABLE XXIX
Skills - Straightening Techniques

Be able to	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
properly rough out a damaged body panel	92%	6%	2%	--%
use a body hammer & dolly & other basic straightening tools	82	14	4	--
completely metal finish out a body panel	56	29	11	4
recognize which conditions require the use of body plastic & be able to apply it properly	75	19	5	1
properly & completely finish out the plastic fill to the proper contour	83	10	5	2
recognize the different methods of finishing plastic	69	23	6	2

TABLE XXX
Skills - Electrical & Mechanical

Be able to	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
remove, replace, check connect, adjust & troubleshoot a-				
water pump	31%	42%	22%	5%
radiator	38	40	20	2
major electrical circuit	41	33	22	4

TABLE XXXI
Skills - Welding

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to recognize the importance of safety procedures around welding	86%	10%	4%	--%
set up an oxy-acetylene system & change	73	16	11	--
light and adjust the torch	85	11	3	--
weld dissimilar gauge metals	71	23	6	--
distinguish which welding process would be the best to use on a given repair	79	16	5	--
properly use the oxy-acetylene torch in conjunction with fusion welding on automotive sheet metal	79	18	3	--
properly use the oxy-acetylene torch in conjunction with braze welding on automotive sheet metal	85	13	2	--
properly use the arc welder in conjunction with automotive sheet or frames	69	26	5	--
properly use the MIG wire feed welder in conjunction with automotive sheet metal	49	33	11	7
properly use the Lenco panel spotter in conjunction with automotive sheet metal	56	22	15	7

TABLE XXXII

Skills - Human Relations-Communications

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
Be able to work with & get along with other people in the shop	66%	26%	8%	--%
recognize the importance of an acceptable set of work habits	69	28	3	--
present himself to the public in a way to promote an acceptable image for the shop	75	18	5	2
recognize the relationship between a day's work and a day's pay	68	21	11	--

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

The specific purpose of this study was to identify skills or tasks required for entry level positions in the auto body industry.

The findings of the study are based on the responses of 68 employers and 64 employees located throughout Wisconsin. The individuals who completed the survey were asked to respond to questions concerning their job title, background and experiences, and their opinion of the curriculum content of the Wisconsin Vocational-Technical Institute auto body programs. The previous tables and discussion have detailed the findings of the survey.

CONCLUSIONS

In reviewing the findings with respect to the specific objectives of the study, the following conclusions are provided:

1. There are not two established auto body shops or employers that expect the same degree of skills from job-entry level employees.
2. Many established auto body shops, especially small shops, are limited to the type of work they are able to perform, thus affecting their skill requirement for potential employees.
3. Many established auto body shops hire an employee to do specific jobs requiring a detailed training in this particular area and less training in other areas.
4. There is a definite need for trained personnel in the auto body field.
5. Due to the complexity of the auto body trade, it is almost impossible to start at a job-entry level without some type of formal education.
6. The employers feel that graduates from the Wisconsin Vocational, Technical system are qualified in the job-entry level skills. (Table I)

7. Both employers and employees feel that a proper attitude and personality are as important in keeping a job as are the qualities of job-entry skills. (Table II, III)
8. Graduates are satisfied with their vocational program training. (Table IV)
9. Graduates are satisfied with the qualifications of their major instructors. (Table V)
10. Graduates are satisfied with their shop facilities during training. (Table VI)
11. Graduates felt the two biggest problem areas during their training are: courses too short and too many students per class. (Table VII)
12. Both employers and employees indicated the top five major courses which should have time increased are: Major Shop Courses, Related Welding Courses, Related Auto Body Electrical Courses, Refinishing Courses, and Frame Straightening Courses. (Table VIII and IX)
13. According to the employers, the individual skills that received the ten highest percent responses in the "very important learn in school" column are: able to use basic body hand tools, 90%, able to use basic body air tools, 90%, understand the importance of a properly prepared surface, 91%, recognize the importance of a well prepared feather edge, 94%, determine whether a surface is actually ready for a topcoat, 92%, able to properly rough out a damaged body panel, 92%, able to use basic body power tools, 89%, able to properly prepared a vehicle for a refinish, 89%, recognize the need for a primer-sealer and be able to use it, 89%, be able to properly spot repair a given panel with acrylic lacquer.
14. According to the employees, the individual skills that receive the ten highest percent responses in the "very important learn in school" column are: understand the importance of a properly prepared surface, 90%, be able to rough out a damaged body panel, 95%, be able to use a body hammer and dolly and other

basic straightening tools, 95% recognize the importance of safety procedures around welding, 95%, properly use the oxy-acetylene torch in conjunction with fusion welding or automotive sheet metal, 90%, properly use the oxy-acetylene torch in conjunction with braze welding on automotive sheet metal, 90%, recognize which type of paint should be used on a given refinish, 88%, be able to determine whether a surface is actually ready for a topcoat, 88%, be able to properly prepare a vehicle for a refinish, 88%, properly use basic body power tools, 88%, be able to recognize the outward visible signs, which indicate frame damage, 88%, be able to remove and replace all weld on sheet metal panels, 91%.

15. The following five skills are listed within the top ten highest percent responses: in the"very important, learn in school" column by both employers and employees; be able to properly use the basic body power tools, be able to understand the importance of a properly prepared surface, be able to properly prepare a vehicle for a refinish, determine whether a surface is actually ready for a topcoat, be able to properly rough out a damaged body panel.

16. A significant number of respondents entered the auto body field through the Wisconsin vocational, technical training, employers 29%, employees 48%. (See page 6, Employer and Employee Characteristics)

17. A significant number of people surveyed felt that Wisconsin vocational, technical training is the best method of entering the auto body field, employers, 62%, employees, 58%. (See page 7, Employer and Employee Characteristics)

RECOMMENDATIONS

Based on the results of this study, the following recommendations are provided:

1. Due to the complexity of the trade and the variety of requirements for job-entry-level employment, the entire auto body curriculum should be broken down into smaller units which would deal with developing specific skills during a particular time period.
2. Specific objectives must be established for each of the units which would facilitate maximum skill development.
3. The units or modules should be offered at a variety of different times during the school calendar and school day thus allowing participation by people on the job and regular day school students.
4. A diploma should be offered to the participants after they have developed the necessary skills and reached the objectives of all the established units.
5. The student should be allowed to choose exactly which units he wishes to participate in, but prerequisites for particular units must be established.
6. The employers within a particular vocational district should become more involved with setting up curriculum objectives of individual units and establishing graduation requirements.
7. The class sizes for the individual units should be limited to a reasonable ratio of students to instructor.
8. The time spent in instruction in the following units should be increased and the curriculum should be expanded in the following areas: major shop courses, related welding courses, related electrical courses, refinishing courses, and frame straightening courses.
9. The following three skills should be thoroughly covered in the units of instruction: 1. Proper use of body hand and power tools 2. Proper methods of straightening procedures 3. Proper methods of surface preparation

10. Requirements for graduation and the establishment of specific educational units and objectives should be made uniform throughout the different districts in the Wisconsin Vocational, Technical and Adult Education System.

WISCONSIN BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

Hill Farms State Office Building
4802 Sheboygan Avenue
Madison, Wisconsin 53702

APPENDIX A

STATE AUTO BODY SURVEY OF REQUIRED JOB-ENTRY SKILLS

The State Board of Vocational, Technical and Adult Education has undertaken a task to determine strengths and weaknesses of the present Auto Body programs throughout the state vocational system. To reach their objectives they need your help in identifying skills and tasks that you believe are necessary to obtain in order to reach a job-entry level of employment as an auto body technician. With this in mind would you please fill out the following short questionnaire in regard to the various tasks and skills required to enter the auto body field.

Most all of the skills listed are used at some time or other in the auto body field. What we are particularly interested in is finding which of these skills are necessary for beginning level of employment in an auto body shop or which skills should be obtained by a student for job-entry level of employment.

EMPLOYER ONLY

1. Name of shop associated with _____

2. Name (optional) _____

3. ☐ owner ☐ shop manager ☐ owner-operator ☐ other

4. Number of years' experience in auto body trade _____

5. Additional employees needed within 2 years _____

6. Number of employees in your firm _____

7. Of the people now working for you how many were trained in the state vocational schools? _____

8. If you have ever hired a State Vocational School graduate how qualified were these people in the area of job-entry skills?

Employee A -	Very Well Qualified	Well Qualified	Average	Unqualified
Employee B -	Very Well Qualified	Well Qualified	Average	Unqualified
Employee C -	Very Well Qualified	Well Qualified	Average	Unqualified

☐ Have never hired state vocational school graduates

9. If you or your firm have ever felt the need to dismiss a man that had graduated from a State Vocational School, what would you consider the primary factor to be?

a. A poor attitude or personality conflict
b. Lack of necessary job-entry skills
c. Other _____

10. Considering your experience with vocational school graduates check the following areas which you feel would apply to improve the overall auto body program.

	Increase Time	Sufficient Time	Decrease Time	Eliminate
Major Shop Courses				
Major Theory Courses				
Related Welding Courses				
Related Auto Body Electrical Courses				
Related Used Car Clean-Up Courses				
Related Tool Maintenance Courses				
Math Courses				
Human Relations-Communications				
Refinishing Courses				
Frame Straightening Courses				
Applied Science Courses				
Employment Orientation Courses				
Other				

EMPLOYEE AND EX-STUDENT ONLY

1. Name of shop associated with (if employed) _____

2. Name (optional) _____

3. Number of years experience in auto body trade _____

4. If you have ever quit or been dismissed from a body shop what would you consider the primary factor to be?

   - ☐ Personality conflict with the management
   - ☐ Lack of required job-entry skills
   - ☐ Other _____
   - ☐ Does not apply

5. On your job what would you consider to be your biggest complaint?

   - ☐ Low wages
   - ☐ Poor working conditions
   - ☐ Poor benefits
   - ☐ Poor management or organization
   - ☐ Lack of communication and understanding
   - ☐ Other _____
   - ☐ Does not apply

6. Have you ever attended any of the state vocational schools in the area of auto body?

   ☐ Yes ☐ No

   If No, go to next section. If Yes, finish questions 7-11.

7. How satisfied were you with your vocational school training?

   - ☐ Highly Satisfied
   - ☐ Satisfied
   - ☐ Dissatisfied
   - ☐ Highly Dissatisfied

   Explain: _____

8. How qualified did you feel your major instructors were?

   - ☐ Highly Qualified
   - ☐ Qualified
   - ☐ Unqualified
   - ☐ Highly Unqualified

   Explain: _____

9. How adequate did you feel your shop facilities and equipment were?

   - ☐ Highly Adequate
   - ☐ Adequate
   - ☐ Inadequate
   - ☐ Highly Inadequate

   Explain: _____

10. Considering your previous vocational school training check the following areas which you feel would apply to improve the overall auto body program.

	Increase Time	Sufficient Time	Decrease Time	Eliminate
Major Shop Courses				
Major Theory Courses				
Related Welding Courses				
Related Auto Body Electrical Courses				
Related Used Car Clean-Up Courses				
Related Tool Maintenance Courses				
Math Courses				
Human Relations-Communications				
Refinishing Courses				
Frame Straightening Courses				
Applied Science Courses				
Employment Orientation Courses				
Other				

11. During your training what would you consider to be your biggest complaint?

- ☐ Inadequate shop facilities
- ☐ Poor instruction
- ☐ Curriculum problems
- ☐ Course too short
- ☐ Too many students per class
- ☐ Lack of social functions
- ☐ Other _____

Check the appropriate item - read the choices EVERYONE

Skills or tasks that students of the auto body trade should become familiar with-

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
▷ Be able to remove, replace, adjust and align-				
all bolt on sheet metal				
all weld on sheet metal				
interior trim items				
interior door stops, adjusting & regulatory devices inside of door				
exterior moldings				
bumpers & mis. exterior parts				
all glass				
vinyl roof				
▷ Be able to-				
write a legitimate estimate using regular shop manuals				
follow the managers estimate or repair order				
add & keep track of time in accordance with the managers estimate				
▷ Be able to rust repair using-				
sheet metal & welding techniques				
fiberglass cloth, tape, woven sheets & fiberglass resin				
▷ Be able to properly use the-				
basic body hand tools				
basic body power tools				
basic body air tools				
▷ Frame Straightening Techniques & Front End Alignment Techniques				
Be able to-				
recognize the outward visible signs which indicate frame damage				
use portable frame equipment to straighten major frame or uni-body damage				
use stationary frame equipment to straighten major frame or uni-body damage				
use portable frame equipment to straighten minor frame on uni-body damage				
use stationary frame equipment to straighten minor frame damage on uni-body damage				

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
refer to a frame manual for determining proper frame dimensions				
understand the importance of a straight frame for alignment purposes				
align a front end after frame is straightened				
diagnose & detect frame damage by the use of gauges & measuring devices				
▷ Paint Preparation Techniques Be able to- look up the paint number for a given vehicle				
understand the importance of a properly prepared surface				
wet sand a finish, primer or putty by hand				
wet sand a finish, primer or putty with a sanding block and squeegy				
dry sand a finish, primer or putty by hand				
determine which grit abrasive paper is the best for a particular job				
use a power sander to prepare a surface, primer or putty for refinish				
recognize the importance of a properly masked vehicle				
recognize the importance of keeping a neat & clean vehicle & work area during the preparation period				
use a metal conditioner properly & recognize the importance of it				
recognize the importance of a well prepared feathered edge				
recognize where a glazing putty can be used during the preparation period & how to use it				
look up the paint formulas for a given paint number & mix a quart of paint on a mixing machine				
properly prepare a vehicle for a refinish				
understand the proper priming techniques				
▷ Painting Techniques Be able to- determine whether a surface is actually ready for a topcoat				
recognize the need for a primer-sealer & be able to use it				

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
recognize which type of paint should be used on a given refinish				
recognize the importance of following label directions				
properly spray a complete auto with acrylic enamel, synthetic enamel, & acrylic lacquer				
properly spot repair a given panel with acrylic lacquer & rub it out				
properly maintain a good clean paint gun & painting equipment				
properly clean-up an auto after it has been refinished				
recognize the effects of different strength solvents on the various undercoats & topcoats				
recognize the affect of temperature & humidity on different topcoats				
recognize the affect of air pressure, % reduction, rate of travel, gun distance, etc. on the final appearance				
▷ Straightening Techniques Be able to- properly rough out a damaged body panel				
use a body hammer & dolly & other basic straightening tools				
completely metal finish out a body panel				
recognize which conditions require the use of body plastic & be able to apply it properly				
properly & completely finish out the plastic fill to the proper contour				
recognize the different methods of finishing plastic				
▷ Electrical & Mechanical Be able to remove, replace, check connect, adjust & troubleshoot a-				
water pump				
radiator				
major electrical circuit				
▷ Welding Be able to- recognize the importance of safety procedures around welding				
set up an oxy-acetylene system & change an empty tank				

	Very Important Learn in School	Important Become Aware of in School	Important Learn On-The-Job	Not Important
light and adjust the torch				
weld dissimilar gauge metals				
distinguish which welding process would be the best to use on a given repair				
properly use the oxy-acetylene torch in conjunction with fusion welding on automotive sheet metal				
properly use the oxy-acetylene torch in conjunction with braze welding on automotive sheet metal				
properly use the arc welder in conjunction with automotive sheet metal or frames				
properly use the MIG wire feed welder in conjunction with automotive sheet metal				
properly use the Lenco panel spotter in conjunction with automotive sheet metal				
Human Relations-Communications Be able to- work with & get along with other people in the shop				
recognize the importance of an acceptable set of work habits				
present himself to the public in a way to promote an acceptable image for the shop				
recognize the relationship between a days work & a days pay				

1. Considering your background how did you enter the auto body field?
   - ☐ Apprenticeship
   - ☐ Through state vocational training
   - ☐ Through on-the-job training
   - ☐ Other _____

2. Which method do you feel is the best method of entering the auto body field?
   - ☐ State vocational schools
   - ☐ Private vocational schools
   - ☐ On-the-job experiences with no vocational training
   - ☐ Apprenticeship training
   - ☐ Other _____

3. Which one of the following techniques do you consider to be the best way of teaching sheet metal straightening?
   - ☐ Rough out, hammer & dolly and then finish with plastic
   - ☐ Rough out, hammer & dolly and metal finish
   - ☐ Rough out, and then finish with plastic
   - ☐ Other _____

Southwest Wisconsin Vocational-Technical Institute

Bronson Boulevard
Fennimore, Wisconsin 53809
Phone: 608-822-3262

APPENDIX B

Advisory Committee Membership

Maurie Thole
Lancaster, WI 53813
Owner-Operator Lancaster Auto Body
Chairman, Auto Body Advisory Committee Southwest Tech, 1971-1975
20 years' trade experience

Jack Slack
Livingston, WI 53554
Owner-Operator Livingston Auto Body
President, Wisconsin Auto Collison Technician Association 1974-1975
Member Auto Body Advisory Committee Southwest Tech, 1971-1975
15 years' trade experience

James K. Murphy
Prairie du Chien, WI 53821
25 years' trade experience
Past Auto Body Instructor Southwest Tech, 1971-1972

Merlyn Drake
Fennimore, WI 53809
Related Auto Body Subjects Instructor Southwest Tech, 1972-1975

Southwest Wisconsin Vocational-Technical Institute

Bronson Boulevard
Fennimore, Wisconsin 53809
Phone: 608-822-3262

Ronald H. Anderson
District Director

APPENDIX C

April 25, 1975

Enclosed you will find a copy of the reviewed survey instrument that was discussed on April 18 at our workshop in LaCrosse, Wisconsin. You will notice that the instrument reflects most all of the changes that were submitted by the group at that time.

Please remember this is a statewide project, federally funded, and should reflect the entire state's opinion and not just a few districts. With this in mind I would appreciate any help I can obtain from you regarding the survey and its possible usage.

You, as a major instructor, could use this instrument to conduct your own district survey and then could compare your results to the state averages when we complete the final report. Your district results would be yours and kept on a confidential basis for your use only.

Please remember the purpose of the survey is to provide information for us to build better programs in our own districts and not to compare results between districts. We believe the results of the survey will show that we are doing a creditable job throughout the state system.

Of the instruments you now have, the ideal return would be 25% employers and 75% ex-graduates. This could be handled as a special assignment for your students before they graduate this year. Also, I will personally mail the final copy of the project to you when it is finished sometime this summer. Finally, we will need these 25 completed surveys returned to me by May 12th.

Sincerely,

John Schindler, Instructor
Auto Body

JS/sk

Enclosures

P.S. See you at WAVAE

APPENDIX D

State of Wisconsin \ BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

EUGENE LEHRMANN
State Director
4802 SHEBOYGAN AVENUE
MADISON, WISCONSIN 53702

February 21, 1975

Mr. Ronald H. Anderson, District Director
Southwest Wisconsin
Vocational, Technical and Adult Education District
Bronson Boulevard
Fennimore, Wisconsin 53809

Dear Mr. Anderson:

The State Board has awarded a research grant to Southwest Wisconsin Technical Institute to conduct a state-wide curriculum study in Auto Body.

The purpose of the study is to obtain information which would provide a basis for possible curriculum changes, and to determine if our present programs are fulfilling the needs of industry in preparing people for employment in the Auto Body Industry.

Your assistance in making this project a success would be greatly appreciated. Please submit the following information from your district to the RCU by March 15, 1975.

(1) A list of Auto Body graduates for the five years 1970, 1971, 1972, 1973, 1974 respectively, including the last known address and employer of each graduate.
(2) A list of employers of graduates.
(3) Topical course outlines for your Auto Body program.
(4) A list of your Auto Body Advisory Committee members.

Copies of the completed studies will be sent to you for consideration toward implementation in improving the above Auto Body programs.

Sincerely,

Eugene Lehrmann
ra

Eugene Lehrmann
State Director

EL/AP/mt

Wisconsin Board of Vocational, Technical
and Adult Education
4802 Sheboygan Avenue - 7th Floor
Madison, Wisconsin 53702

Eugene Lehrmann, State Director

APPENDIX E

COMMUNICATION BULLETIN 79-75

Auto Body Instructors Workshop

March 4, 1975

To the District Directors
Wisconsin Vocational, Technical
and Adult Education

Dear Colleague:

The Trades and Industry staff is planning a state called workshop for Auto Body instructors at Western Wisconsin Technical Institute, La Crosse on Thursday and Friday, April 17-18, 1975. The workshop will begin with registration at 9:00 a.m. and the opening remarks at 10:00 a.m.

The purpose of this Instructor's workshop is to explore the innovations needed to update and keep curriculum current and to provide the instructors an opportunity to exchange new techniques in instructional methodology and materials.

The program will include representatives from industry to discuss new developments and methods to prepare instructional materials. Also, we want to discuss curriculum content to meet the needs of the industries who employ the graduates of specialized programs.

We encourage the Districts to send all major instructors in Auto Body to the workshop at Western Wisconsin Technical Institute on April 17-18, 1975. We feel the participation will be important to the individual instructor and the students they instruct. Please mark your calendars.

Pre-Registration and tentative agenda is enclosed. Please return the registration form to Otis Mehlberg by April 9, 1975.

Sincerely,

Eugene Lehrmann

Eugene Lehrmann
State Director

EL/OM/mt

Enc.

PENNMORE, WI.

Wisconsin Board of Vocational, Technical and Adult Education
WFSOB - 4802 Sheboygan Avenue - Madison, Wisconsin 53702
Eugene Lehrmann, Director

Auto Body Instructors Workshop
Western Wisconsin Technical Institue
La Crosse, Wisconsin

April 17-18, 1975

Coordinator: Otis Mehlberg
Local Coordinator: William Welch

April 17, 1975

Chairperson: Otis Mehlberg

9:00 a.m.	Registration - coffee
10:00 a.m.	Welcome - Mr. Charles Richardson, District Director Western Wisconsin Technical Institute
10:15 a.m.	Program Review - Otis Mehlberg Consultant - Wisconsin Board of VTAE
10:30 a.m.	Certification of Auto Body Mechanics - George Kinsley, Director, Bureau of Program Division
11:00 a.m.	Instructional Challenges - Arnold Potthast, Chief Trades & Industry
	Areas of Instruction Program Requirements Committee Reponsibilities Articulation - Community & Schools
11:30 a.m.	Group Discussion - Arnold Potthast
12:00 noon	Lunch
1:15 p.m.	Chairperson: William Welch Recorder: Otis Mehlberg
	Industrial Representatives from Western Wisconsin District
3:30 p.m.	Review curriculum - Otis Mehlberg
4:30 p.m.	Break
7:00 - 9:00 p.m.	Workshop on Curriculum

(OVER)

Friday, April 18, 1975

Chairperson: Otis Mehlberg
Recorders from each section

8:30 a.m. — Fennimore Auto Body Survey - John Schendler

9:30 a.m. — Continue Workshop Sessions

Suggested items for discussion purposes

1) List of texts
2) Copy of curriculum
3) Sample of laboratory experiments
4) Sample of specific content presentations
5) Samples of content evaluation
6) Samples of Laboratory equipment
7) List of audio visual materials and references.

11:30 a.m. — Lunch

12:30 p.m. — Chairperson: Otis Mehlberg
Recorder from each section.

Continue Workshop

3:00 p.m. — Group Reactions to Workshops by each recorder

4:00 p.m. — Adjourn

OM/mt

REGISTRATION

Auto Body Instructors Workshop
Western Wisconsin Technical Institute
La Crosse, Wisconsin

April 17-18, 1975

Return to Otis Mehlberg by April 9, 1975.

NAME ~~John Schindler~~

NAME ~~Gilbert Egge~~

SCHOOL ~~Southwest Wisconsin Vocational-Technical~~

MAJOR SUBJECT RESPONSIBILITY ~~Auto Body~~

(Authorized By)

OM/mt

State of Wisconsin \ BOARD OF VOCATIONAL, TECHNICAL & ADULT EDUCATION

EUGENE LEHRMANN
State Director

4802 SHEBOYGAN AVENUE
MADISON, WISCONSIN 53702

APPENDIX F

M E M O R A N D U M

May 23, 1975

TO: District Directors & All Participants

FROM: Otis Mehlberg

SUBJECT: Auto Body Instructors Workshop - La Crosse
April 17-18, 1975

Enclosed is a copy of the Minutes from the Auto Body Instructors Workshop held at La Crosse on April 17-18, 1975.

During the course of the workshop it was indicated by the people from the industry that at the present time more people are having their cars repaired and there is a definite need for good trained people to enter the industry.

Another very pertinent topic discussed by instructors was the need for individualizing instruction and having students enter and graduate at different times of the year.

Mr. John Schindler, Southwest Technical Institute is conducting a Statewide Survey of employers, employees and recent graduates of the Auto Body programs in Wisconsin. Mr. Schindler solicited the help of the instructors in conducting this survey.

Please contact me if you have any questions concerning this workshop or the Minutes.

OM/mt

Enclosure

Wisconsin Board of Vocational, Technical and Adult Education
4802 Sheboygan Avenue, Madison, Wisconsin
Eugene Lehmann, Director

Auto Body Instructors Workshop
April 17-18, 1975
La Crosse, Wisconsin

Chairman: Otis Mehlberg
Recorder: Otis Mehlberg

Participants:

Clifford Gunderson	WWTI
Lewis Lewison	WWTI
Peter McCormick	WWTI
George Hinkley	WWTI
Don Wernick	Madison Area
Eldon Rika	Lakeshore
Robert Argall	Lakeshore
Alvin Fisher	NCTI - Antigo
Dale Hayden	Mid-State - Wisconsin Rapids
Elmer Pankau	MATC - Milwaukee
Bob Jacobson	District 1 - Eau Claire
Monte Peterson	District 1 - Eau Claire
Leon De Larwelle	Moraine Park - West Bend
Vern Houge	Northeast - Green Bay
Bob Smith	Fox Valley - Appleton
Wilbur Conklin	Fox Valley - Appleton
Dann Kann	WITI - Rice Lake
Gil Egge	Fennimore
John Schindler	Fennimore
Hank Dikkeboom	Blackhawk - Janesville
Otis Mehlberg	WBVTAE
Arnold Potthast	WBVTAE
George Kinsler	WBVTAE

Jim Carlson - Body Shop Manager - Buick Garage - La Crosse and La Verne Dahl - Shop Owner - Lancaster spoke to the group about the concerns of the industry. Some of the remarks they made were:

- The auto body industry does over 1 billion dollars of business per year.
- People are having cars fixed that are 10 years old - usually people traded before them
- Majority of the work is the result of salt and rust
- There is a need for trained auto body people
- The industry is having difficulty complying to the OSHA standards and need help
- It takes about $100,000 to $150,000 to open a body shop
- It cost about $18.00 per hour to operate a shop
- The wages must be continually upgraded to keep good people in the industry
- In the last 5 years labor rates have gone up about $1.00 and materials have more than doubled
- The aptitude of the students must be tested at the 9th and 10th grade level so people with a higher aptitude will be trained to enter the industry
- There is an Armed Services test that can be used at the 12th grade level
- Western Wisconsin has a co-op program in La Crosse
  a) Students go out for 6 weeks during last quarter
  b) They are paid minimum wages and the student is supervised by the instructors at WWTI
  c) Scoring sheet at the end of 3rd and 6th weeks for the co-op student

(OVER PLEASE)

d) 2 weeks in school after co-op before graduation.
e) Students must be clean and sharp looking to be employable
f) Make sure students check over customers cars before they leave the shop. Customers do not liketo have to come back for things that are not done or done right.
g) Students should be able to staighten doors and bumpers

Mr. Kinsler discussed the Certification program for the Auto Body Industry, Standards are being proposed for training of Automobile Body Repairman and Automobile Painters. He encouraged all instructors to participate in the initial tests which are being conducted to evaluate and validate the test. Mr. Rhinhold Bents of the Eau Claire Technical Institute, District 1 is on the National Advisory Board.

Mr. Arnold Potthast, Chief, Trade and Industrial Education presented the program requirements. In a Vocational Diploma program the student should have a minimum of 30 contact hours per week and a minimum of 80% of the total hours should be in the occupational area. The other 20% may be in supportive related or General related courses.

Mr. Potthast emphasized the importance of the advisory committees. It was suggested that the committees meet twice per year, they are advisory to the school and program, the committee should receive an agenda in advance of the meeting and accurate minutes following the meeting. Instructors do not serve on a committee, but are Consultant's to the Committee. It was suggested that students and recent graduates be a part of the Committee. Employer and Employee must be identified and keep a good balance of both on a Committee.

It is important to articulate with the high school instructors, and all potential employees. Have the high school instructors and students into the shop for visitation and curriculum exchange. Communications is a 2 way street but it takes someone to get the vehicle in motion.

A representative from each school explained the program length - number of students and number of graduates expected.

Eau Claire - 25 students - 2 sections - 9 month program
24 - 25 will graduate

WVTI - 30 students - 3 sections - 3 quarter program
20 to graduate in August

Fennimore - 20 students - 2 sections - 2 semester
8 to graduate

Madison - 20 students - 2 year program - 36 students - 1 year program
17 to graduate

Milwaukee - 14 students - 1 section - 2 semesters
15 to graduate

Moraine - 32 students - 2 sections - 2 semesters
10 to graduate. The program will move to Fond du Lac

Fox Valley - 40 students - 2 sections - the program is completely individualized 2 years ago. Students enter and graduate at any time during the year. They graduate 20-25 students per year.

Green Bay - 35 students - 2 sections - 9 month diploma program
30 to graduate

Mid-State - 24 students - 1 section - 2 semester
10 to graduate

Antigo - 18 students - 1 section - 2 semesters
12 to graduate

Rice Lake - 17 students - 1 section - 2 semesters
17 to graduate

The participants were divided into 2 groups by Mr. Mehlberg and were asked to discuss curriculum, length of program, resource materials, and new techniques used in each District. The following are the committee reports for each group.

Committee #1

Gunderson	Peterson - Chairperson - Recorder
Lewison	Conklin
Fisher	Rika
Pankau	Schindler

Individualized Instruction - Appleton instructors were asked about their programmed instruction package. Forms were circulated by Appleton and Mr. Mehlberg informed the group that the work done by Appleton was available. He also encouraged instructors to visit Appleton and view the program in Action.

Extension Ed. - The trades people have expressed interest in new parts on the Market and have indicated a need for upgrading of employees. A survey is going to be conducted by each instructor which will include a questionnaire as to employees needs in this area.

Co-op - Several districts are using this approach and have pointed out some of the pitfalls and advantages. The industry representatives were very favorable in their acceptance of Coop. The need for close supervision was emphasized.

General Education - The need to rewrite many general education classes so that they align more closely with the needs of the program they are supposed to support. Instructors were encouraged to incorporate some things like Human Relations and Communications requirements into Estimating Classes or other classes being taught by trades instructors.

Certification	Points Discussed
1.	People in industry are interested.
2.	Shop owners favor certification.
3.	Discussion of whether instructors should be certified.
4.	Should refresher courses be made available for certification tests? Madison Tech. has offered such a course. Discussion of what should be taught for refresher courses. Discussion of whether certified people are actually competent in their field.

State Auto Body Survey

John Schindler presented his copy of proposed survey to state auto body graduates and repair shop. Revisions were made and the instructors indicated they would cooperate in completing the survey. This is a federal funded project and must be completed by July 1, 1975. Instructors present were asked to have a number of their graduates and repair shops in their districts fill out the survey and mail them to Mr. Schindler no later than May 15, 1975.

Curriculum

1. Discussion of what textbooks are available.
2. The textbook by Tait appeared to be most popular.
3. Most instructors commented they use refinishing books supplied by paint manufacturers.
4. Discussion of length of auto program 38 week - 48 week - 72 week.
5. Discussion of offering 10 week summer session - several instructors indicated that they would favor 40 week program. Also, many students favor 48 week course. Western Wisconsin Tech. indicated high degree of success with their 48 week program.

   A show of hands indicated many instructors enjoy working in the trade during summer months.

Committee #2

McCormick, Chairperson	Jacobson	Egge
Wernick	Smith	Dikkeboom
Argall	Houge	
De Larwelle	Kann - Recorder	

Individualized Inst. (Open ended)

A. Ran Task Analysis (This helped limit initial enrollment)
   1. (i.e.) Painter
   2. Frame man, etc.
B. Has evaluation card, with all requirements
C. No lecture
D. 2 casett players, handouts, test
   video tapes, (made much of own material)

*WHAT IS GOOD A.V. MATERIAL?? It seems like there is quite abit of material on the market.

E. *Attendance: Time card. Accounts for absences. i.e., write on time card, dental appt. etc., 12 students per inst. ratio, student not there - take another one in.
F. Student may select whatever phase of instruction he wants (after basics are completed). May become proficient in one painting phase and quit.
G. Duration of Program -
   1. Set up on 2 years
   2. May complete sooner
I. Have own partsman (Full-time)
J. Related subjects are on 12 week basis.
K. Close shop down 12 hour per day
   1. Time to discuss happenings of day
L. Jobs: Students and faculty any other
   Job must be approved by director
M. Student pays $425 fee per week

Extension Ed
Night courses open to public and students (limited enrollment)

1. Auto body maintenance
2. Rust
3. Custom
4. Antique restoration - same people back each year. This is a problem.
5. Frame
6. Alignment
7. Estimating

Couses said to have gone over excellent.

Co-op

A. request for printed material from LaCrosse
    1. For more information read material too be handed out

Be sure to place students and retain control of students.

General Education Related

A. Should work inst. closely
B. 2 books on Auto Body Math

Apprenticeship

A. Should be eliminated in favor of night courses.

Certification

1. Must have practical test
2. Written test is fine for some
3. Some type of test or performance or etc.

Safety

A. Inst. must take first aid course at Green Bay
B. Student services runs General Safety program
C. Shop safety integrated with course.
    1. Welding
    2. Housekeeping
    3. First Aid

There was considerable discussion about facilities and field trips following the committee reports. Some Districts are building new facilities. The instructors who have just completed new facilities had some constructive suggestions. Also, it seems some industries are not allowing field trips to their facilities. A couple instructors will check on the reasons for discontinuing the field trips and hopefully will encourage the companies and resume the policies of field trips.

The group adjourned about 3:00 P.M. on Friday, April 18, 1975.

ORI/mt